

Claims

1. A method for recovering performance of a discharge gas processing apparatus, which apparatus includes a honeycomb catalyst having gas conduits for feeding a gas to be treated, the catalyst being provided in a discharge gas conduit of the apparatus and, in use, performing gas treatment on the sidewalls of the gas conduits, characterized in that the method comprises rearranging the honeycomb catalyst such that a deteriorated portion of the honeycomb catalyst is transferred from the inlet side of the discharge gas conduit, wherein the deteriorated portion is on the upstream side in terms of the flow of the gas to be treated and extends to cover a predetermined range of the honeycomb catalyst.

2. A method for recovering performance of a discharge gas processing apparatus according to claim 1, wherein the honeycomb catalyst is rearranged such that the deteriorated portion is disposed on the downstream side in terms of the flow of the gas so that the gas feed direction is inverted.

3. A method for recovering performance of a discharge gas processing apparatus according to claim 1 or 2, wherein the honeycomb catalyst is cut perpendicular to the gas flow direction into a plurality of catalyst pieces, and the catalyst pieces are rearranged such that the deteriorated portion is not disposed on at least the furthest upstream side.

4. A method for recovering performance of a discharge gas processing apparatus according to any one of claims 1 to 3, wherein the honeycomb catalyst is rearranged after the deteriorated portion has been removed.

5. A method for recovering performance of a discharge gas processing apparatus according to any of claims 1 to 3, wherein a portion of the sidewalls of the gas conduits of the honeycomb catalyst is removed through abrasion, the portion covering the deteriorated portion, and then the honeycomb catalyst is rearranged.

6. A method for recovering performance of a discharge gas processing apparatus according to any of claims 1 to 5, wherein the predetermined range corresponds to a range from the inlet to a site where the flow of the gas fed into the gas conduits is regulated and straightened.

7. A method for recovering performance of a discharge gas processing apparatus according to any of claims 1 to 6, wherein the range L_b (mm) is represented by equation (A) :

$$L_b = a \left(\frac{L_y}{L_{ys}} \cdot 22e^{0.035(L_y \cdot U_{in})} \right) \quad (A)$$

(wherein U_{ins} (m/s) represents a gas inflow rate, L_y (mm) represents an aperture size, L_{ys} is an aperture size of 6 mm (constant value), and "a" is a constant falling within a range of 3 to 5, when the aperture size (L_y) is 6 mm and the gas inflow rate is 6 m/s).

8. A method for recovering performance of a discharge gas processing apparatus according to any of claims 1 to 7, wherein the honeycomb catalyst is a flue gas NO_x removal

catalyst.

9. A method for recovering performance of a discharge gas processing apparatus according to claim 8, wherein the honeycomb catalyst is immersed at ambient temperature in regeneration water containing substantially no chlorine and no cleaning component, the catalyst is retransferred from the regeneration water, and residual water is retransferred from the catalyst.